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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,117	10/17/2003	Paul D. Hillman	00-670	9244

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PATENT DEPT.
PEORIA, IL 616296490

EXAMINER

TRIEU, THAI BA

ART UNIT PAPER NUMBER

3748

DATE MAILED: 04/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary

Application No.

10/688,117

Applicant(s)

HILLMAN ET AL.

Examiner

Thai-Ba Trieu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-14 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 9, 10, 15 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Receipt is acknowledged of papers submitted under 35 U.S.C. 119 (a)-(d), which papers have been placed of record in the file.

Claim Objections

Claim 20 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Both claims 19 and 20 depend on claim 17 and contain identical limitations.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

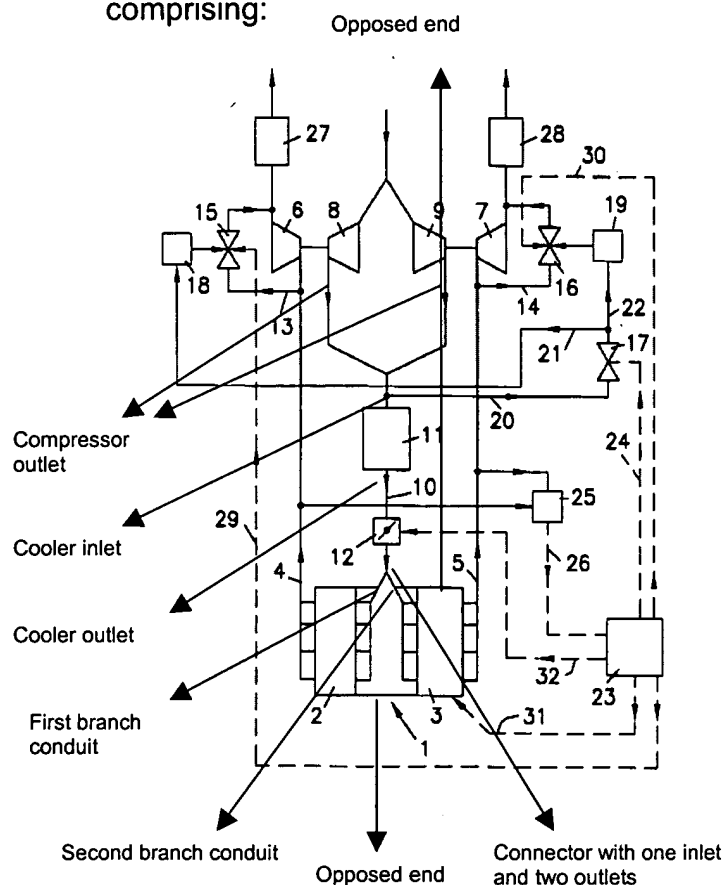
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 5-6, and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Schray et al. (Patent Number 5,845,495).

Regarding claims 1-2 and 5-6, Schray discloses a charge air system for delivering charged air from a compressor (8, 9) to a 'V' configuration internal combustion engine having first and second spaced banks (2, 3) of cylinders each defining a plurality of combustion chambers (See attached Figure), the system comprising:



a compressor outlet (Not Numbered) (See attached Figure);

a charge air cooler (11) having an inlet (Not Numbered) and an outlet (Not Numbered), said inlet being in communication with said compressor outlet (See attached Figure);

a first branch conduit adapted for communication with said first bank of cylinders (See attached Figure);

a second branch conduit adapted for communication with said second bank of cylinders (See attached Figure);

a flow control valve (12) in communication with said outlet of said charge air cooler and in communication with said first and second branch conduits (See attached Figure); and

a connector (Not Numbered) having one inlet and two outlets (See attached Figure), said connector inlet being in communication with said flow control valve (12)

and said two connector outlets being in communication with said first and second branch conduits respectively (See attached Figure).

Regarding claims 17-18, the method as claimed would be inherent during the normal use and operation of Schray device as disclosed in the rejection of claims 1-2 and 5-6 set forth above.

Claims 1-2, 5-6, and 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Pichler et al. (Pub. Number US 2004/0031636 A1).

Regarding claims 1-2 and 5-6, Pichler discloses a charge air system for delivering charged air from a compressor (22) to a 'V' configuration internal combustion engine having first and second spaced banks (4A, 4B) of cylinders each defining a plurality of combustion chambers (See Figure 17), the system comprising:

a compressor outlet (Not Shown) (See Figure 17);

a charge air cooler (62) having an inlet (Not Numbered) and an outlet (Not Numbered), said inlet being in communication with said compressor outlet (See Figure 17);

a first branch conduit (Not Numbered) adapted for communication with said first bank of cylinders (4A) (See Figure 17);

a second branch conduit (Not Numbered) adapted for communication with said second bank of cylinders (4B) (See Figure 17);

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a flow control valve (Not Numbered) in communication with said outlet of said charge air cooler and in communication with said first and second branch conduits (4A, 4B) (See Figure); and

a connector (Not Numbered) having one inlet and two outlets (See attached Figure), said connector inlet being in communication with said flow control valve (12) and said two connector outlets (Not Numbered) being in communication with said first and second branch conduits respectively (See Figure 17).

Regarding claims 17-18, the method as claimed would be inherent during the normal use and operation of Pichler device as disclosed in the rejection of claims 1-2 and 5-6 set forth above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schray et al. (Patent Number 5,845,495), in view of Ohtake (Patent Number 4,497,751).

Schray discloses the invention as recited above, and further discloses a charge air conduit connecting said compressor outlet and said charge air cooler inlet (See

attached Figure), said charge air conduit including a substantially straight portion (See attached Figure); however, Schray fails to disclose the substantially straight portion of said charge air conduit adapted to be disposed between said first and second spaced banks of cylinders.

Ohtake teaches that it is conventional in the internal combustion engine art, to utilize the substantially straight portion of said charge air conduit (6) adapted to be disposed between said first and second spaced banks of cylinders (See Figure 1A). It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the substantially straight portion of said charge air conduit adapted to be disposed between said first and second spaced banks of cylinders, as taught by Ohtake, to reduce assembly costs and to design a simple air ducting in the Schray device.

Claims 11 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schray et al. (Patent Number 5,845,495), in view of Aoi (Patent Number JP 61 028719 A).

Schray discloses the invention as recited above, and further discloses the engine having first and second opposed ends (See Attached Figure); however, Schray fails to disclose the location of the compressor and the charge air cooler.

Aoi teaches that it is conventional in the V-type supercharged engine art, to utilize the compressor (24) being provided at the first end of the engine and the charge

air cooler (26) being provided at the second end of the engine (See Figures 1-2, Abstract, and Constitution).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the compressor being provided at the first end of the engine and the charge air cooler being provided at the second end of the engine, to provide an improvement in arranging the components of the Schray device.

Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schray et al. (Patent Number 5,845,495), in view of Ohtake (Patent Number 4,497,751), and further in view of Aoi (Patent Number JP 61 028719 A).

The modified Schray discloses the invention as recited above, and further discloses the engine having first and second opposed ends (See Attached Figure); however, fails to disclose the location of the compressor and the charge air cooler.

Aoi teaches that it is conventional in the V-type supercharged engine art, to utilize the compressor (24) being provided at the first end of the engine and the charge air cooler (26) being provided at the second end of the engine (See Figures 1-2, Abstract, and Constitution).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the compressor being provided at the first end of the engine and the charge air cooler being provided at the second end of the engine, to provide an improvement in arranging the components of the modified Schray device.

Allowable Subject Matter

Claims 9-10 and 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Chabry (US Patent Number 5,785,027) discloses an internal combustion engine intake and exhaust system.
- Ueda et al. (US Patent Number 5,031,598) disclose an intake system for multi-cylinder engine with supercharger.
- Grimmer (US Patent Number 4,563,132) discloses a compound turbocharger system for an internal combustion engine.
- Ochiai (Patent Number JP 01 110835 A) discloses a horizontally opposed type engine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
April 12, 2005



Thai-Ba Trieu
Primary Examiner
Art Unit 3748